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puted by Spoerer's formula,* is given for the latitudes corresponding to the centres of the different zones of *Jupiter*. The rotation periods for both orbs are also expressed in terms of that for their respective equatorial zones, as this will bring out better the *relative* drifts of the solar and jovian currents :—

Latitude.	*Jupiter.*		*The Sun.*	
	Rotation period for different latitudes		Rotation period for different latitudes	
	In time.	In terms of the Equatorial period.	In days.	In terms of the Equatorial period.
°	h m s		d	
+46	9 55 37·5	1·0089	28·625	1·1407
+26	9 54 30 9 56 30	1·0071 1·0104	26·165	1·0427
+22	9 48 45	0·9973	25·855	1·0303
+15	9 55 33·9	1·0089	25·445	1·0140
0	9 50 20	...	25·094	...
−15	9 55 40	1·0090	25·445	1·0140
−21	9 55 40	1·0090	25·786	1·0276
−27½	9 55 18·1	1·0084	26·295	1·0478
+46	9 55 5	1·0081	28·625	1·1407

Ephemeris for Physical Observations of the Moon, 1896.

By A. Marth.

Greenwich Noon.	Selenographical Colong. of the Sun.	Selenographical Lat. of the Sun.	Geocentric Libration. Sel. Long. of the Earth.	Geocentric Libration. Lat. of the Earth.	Combined Amount.	Direction.
1896.	°	°	°	°	°	°
Jan. 19	321·23	−0·91	−0·55	−1·80	1·88	163·0
20	333·41	0·89	1·77	3·09	3·61	150·2
21	345·58	0·87	3·15	4·25	5·29	143·5
22	357·74	0·85	4·43	5·24	6·86	139·9
23	9·90	0·83	5·51	6·02	8·15	137·7
24	22·05	0·81	6·31	6·53	9·07	136·2
25	34·20	−0·78	−6·76	−6·75	9·54	135·2
26	46·34	0·76	6·80	6·62	9·48	134·4
27	58·48	0·73	6·43	6·13	8·87	133·8
28	70·62	0·70	5·64	5·27	7·71	133·2
29	82·75	0·67	4·49	4·05	6·04	132·1
30	94·87	0·64	3·06	2·55	3·98	129·8
31	106·00	−0·61	−1·47	−0·88	1·71	120·9

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* Daily angular rotation: $\xi = 8^{\circ}{\cdot}548 + 5^{\circ}{\cdot}798$ cos latitude. *Publ. des Astrophysik. Obser. zu Potsdam,* Band x. p. 145. [I am indebted to Mr. E. W. Maunder for the above Table.]

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Greenwich Noon.	Selenographical		Geocentric Libration.			
	Colong. of the Sun	Lat. of the Sun	Sel. Long. of the Earth	Lat. of the Earth	Combined Amount.	Direction.
1896.	°	°	°	°	°	°
Feb. 1	118·13	−0·58	+0·18	+0·90	0·92	348·7
2	131·27	0·55	1·77	2·60	3·15	325·8
3	143·41	0·52	3·20	4·10	5·20	322·1
4	155·56	0·49	4·40	5·32	6·90	320·5
5	167·72	0·46	5·32	6·19	8·16	319·5
6	179·88	−0·44	+5·95	+6·68	8·93	318·5
16	301·76	−0·19	−1·02	−2·82	3·00	160·1
17	313·95	0·16	2·42	4·03	4·70	149·1
18	326·14	0·13	3·78	5·07	6·32	143·4
19	338·32	0·11	5·04	5·90	7·75	139·6
20	350·50	0·08	6·12	6·49	8·91	136·9
21	2·67	0·05	6·96	6·79	9·71	134·5
22	14·84	−0·03	−7·50	−6·77	10·09	132·3
23	27·00	0·00	7·66	6·41	9·97	130·1
24	39·16	+0·03	7·42	5·70	9·35	127·7
25	51·31	0·06	6·73	4·64	8·17	124·7
26	63·46	0·09	5·62	3·26	6·60	119·7
27	75·60	0·13	4·13	−1·63	4·44	111·6
28	87·74	+0·16	−2·35	+0·14	2·35	86·4
29	99·88	0·19	−0·41	1·93	1·97	12·0
Mar. 1	112·02	0·22	+1·56	3·57	3·90	336·4
2	124·17	0·25	3·39	4·96	6·01	325·7
3	136·32	0·28	4·95	5·98	7·58	320·5
4	148·48	0·31	6·17	6·60	9·02	317·1
5	160·64	+0·34	+6·98	+6·81	9·74	314·5
17	307·02	+0·63	−3·92	−5·69	6·91	145·5
18	319·23	0·65	5·09	6·32	8·11	141·3
19	331·43	0·68	6·10	6·68	9·04	137·8
20	343·63	0·70	6·92	6·74	9·65	134·4
21	355·82	0·73	7·48	6·48	9·88	131·1
22	8·00	0·75	7·75	5·89	9·72	127·4
23	20·18	+0·78	−7·66	−4·97	9·12	123·1
24	32·36	0·80	7·17	3·75	8·09	117·7
25	44·53	0·83	6·27	2·27	6·67	109·9
26	56·69	0·86	4·96	−0·60	5·00	96·9
27	68·85	0·88	3·29	+1·15	3·49	70·7
28	81·01	+0·91	−1·35	+2·85	3·15	25·3

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Greenwich Noon.	Selenographical Colong. of the Sun	Selenographical Lat. of the Sun	Geocentric Libration. Sel. Long. of the Earth	Geocentric Libration. Lat. of the Earth	Geocentric Libration. Combined Amount.	Geocentric Libration. Direction.
1896.	°	°	°	°	°	°
Mar. 29	93·16	+0·94	+0·72	+4·35	4·41	350·6
30	105·32	0·96	2·75	5·54	6·18	333·7
31	117·48	0·98	4·58	6·33	7·81	324·2
Apr. 1	129·64	1·01	6·05	6·68	9·00	318·0
2	141·81	1·03	7·07	6·61	9·67	313·3
3	153·99	1·05	7·59	6·16	9·76	309·2
4	166·17	+1·07	+7·63	+5·39	9·33	305·4
Apr. 14	288·31	+1·22	−3·78	−6·12	7·19	148·4
15	300·54	1·24	4·79	6·51	8·08	143·8
16	312·76	1·25	5·63	6·61	8·67	139·7
17	324·98	1·27	6·20	6·39	8·90	136·0
18	337·19	1·28	6·77	5·86	8·95	131·1
19	349·40	+1·30	−7·02	−5·03	8·63	125·8
20	1·61	1·31	6·98	3·91	7·99	119·4
21	13·81	1·33	6·63	2·55	7·11	111·1
22	26·00	1·35	5·95	−1·00	6·03	99·6
23	38·19	1·36	4·90	+0·64	4·94	82·5
24	50·37	+1·38	3·50	2·28	4·18	56·9
25	62·55	1·39	−1·81	3·80	4·17	24·2
26	74·72	1·40	+0·09	5·07	5·07	359·0
27	86·89	1·42	2·02	5·99	6·32	341·4
28	99·06	1·43	3·83	6·48	7·52	329·5
29	111·24	+1·44	+5·35	+6·54	8·44	320·9
30	123·42	1·45	6·45	6·19	8·93	313·9
May 1	135·60	1·46	7·07	5·48	8·94	307·9
2	147·79	1·46	7·19	4·49	8·47	302·1
3	159·98	1·47	6·85	3·31	7·61	295·9
4	172·18	+1·47	+6·17	+1·99	6·48	287·9
14	294·48	+1·50	−5·07	−6·33	8·10	141·5
15	306·72	1·51	5·48	5·82	7·97	136·7
16	318·96	1·51	5·70	5·01	7·57	131·3
17	331·19	1·51	5·77	3·93	6·97	124·3
18	343·41	1·52	5·63	2·61	6·20	114·9
19	355·63	+1·52	−5·27	−1·12	5·39	102·0
20	7·85	1·52	4·66	+0·46	4·68	84·4
21	20·06	1·53	3·79	2·04	4·30	61·7
22	32·26	+1·53	−2·66	+3·52	4·41	37·0

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Greenwich Noon.	Selenographical Colong. of the Sun	Selenographical Lat. of the Sun	Geocentric Libration. Sel. Long. of the Earth	Geocentric Libration. Lat. of the Earth	Combined Amount.	Direction.
1896.	°	°	°	°	°	°
May 23	44·45	+1·53	−1·28	+4·80	4·97	14·9
24	56·64	+1·53	+0·26	+5·77	5·78	357·4
25	68·83	1·53	1·86	6·36	6·63	343·8
26	81·01	1·52	3·39	6·53	7·35	332·7
27	93·20	1·52	4·68	6·28	7·83	323·5
28	105·38	1·51	5·65	5·64	7·97	315·1
29	117·57	+1·51	+6·20	+4·69	7·77	307·2
30	129·76	1·50	6·30	3·52	7·21	299·3
31	141·96	1·49	5·97	2·19	6·36	290·2
June 1	154·17	1·48	5·26	+0·79	5·32	278·6
2	166·38	1·48	4·23	−0·61	4·28	261·8
3	178·59	+1·47	+3·02	−1·96	3·60	237·0
13	301·00	+1·37	−4·79	−4·04	6·26	130·2
14	313·25	1·36	4·52	2·71	5·27	121·0
15	325·49	1·35	4·09	−1·21	4·26	106·5
16	337·72	1·35	3·52	+0·38	3·54	83·8
17	349·95	1·34	2·80	1·96	3·42	55·0
18	2·18	+1·33	1·94	3·44	3·95	29·4
19	14·40	1·32	−0·93	4·73	4·82	11·3
20	26·61	1·30	+0·19	5·72	5·72	358·1
21	38·81	1·29	1·38	6·37	6·52	347·8
22	51·01	1·27	2·56	6·61	7·09	338·9
23	63·21	+1·26	+3·65	+6·45	7·41	330·6
24	75·40	1·24	4·55	5·89	7·44	322·5
25	87·59	1·22	5·17	5·00	7·19	314·2
26	99·78	1·20	5·46	3·85	6·67	305·3
27	111·97	1·18	5·39	2·52	5·99	295·1
28	124·17	+1·16	+4·96	+1·09	5·08	282·4
29	136·37	1·14	4·21	−0·36	4·23	265·1
30	148·57	1·12	3·20	1·76	3·65	241·2
July 1	160·78	1·10	2·10	3·07	3·72	214·3
2	173·00	1·08	+0·79	4·23	4·30	190·4
3	185·22	+1·06	−0·64	−5·20	5·24	173·0
13	307·68	+0·87	−2·88	+0·13	2·88	87·4
14	319·92	0·85	1·93	1·78	2·63	47·3
15	332·16	+0·83	−0·91	+3·32	3·44	15·3

Greenwich Noon.		Selenographical Colong. of the Sun.	Selenographical Lat. of the Sun.	Geocentric Libration. Sel. Long. of the Earth.	Geocentric Libration. Lat. of the Earth.	Combined Amount.	Direction.
1896.		°	°	°	°	°	°
July	16	344·39	+0·81	+0·14	+4·64	4·64	358·3
	17	356·62	0·79	1·19	5·72	5·84	348·2
	18	8·84	0·77	2·21	6·42	6·79	341·1
	19	21·05	+0·75	+3·15	+6·73	7·43	335·0
	20	33·26	0·72	3·97	6·64	7·73	329·3
	21	45·46	0·70	4·61	6·16	7·69	323·3
	22	57·66	0·67	5·05	5·34	7·34	316·7
	23	69·85	0·64	5·24	4·24	6·74	309·1
	24	82·04	0·62	5·16	2·94	5·94	299·7
	25	94·23	+0·59	+4·80	1·53	5·03	287·5
	26	106·42	0·56	4·17	−0·03	4·17	270·4
	27	118·61	0·53	3·30	−1·43	3·60	246·6
	28	130·81	0·50	2·23	2·79	3·57	218·6
	29	143·01	0·48	+1·01	4·02	4·14	194·1
	30	155·22	0·45	−0·29	5·06	5·07	176·7
	31	167·43	+0·42	1·61	−5·88	6·10	164·7
Aug.	1	179·64	0·39	2·86	6·46	7·06	156·2
	2	191·86	0·37	3·97	6·75	7·83	149·7
	3	204·09	0·34	4·88	6·75	8·33	144·3
	4	216·32	0·31	5·51	6·44	8·47	139·6
	5	228·56	0·29	5·83	5·79	8·21	134·9
	6	240·80	+0·27	−5·79	−4·83	7·54	129·9
	7	253·04	0·24	5·40	3·57	6·47	123·5
	8*	265·29	0·22	4·66	2·07	5·10	114·0
	9	277·54	+0·20	−3·63	−0·40	3·65	96·3

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* During the Eclipse of Aug. 8 the selenographical longitude Λ and latitude B of the point in the centre of the shadow cone and the position-angle P of the Moon's axis will be

Aug. 8	16h Gr.	$\Lambda = -3^\circ\!\cdot\!45$	$B = -0^\circ\!\cdot\!21$	$P = 16^\circ\!\cdot\!10$
	18	$-4\cdot48$	$-0\cdot20$	$16\cdot12$
	20	$-5\cdot51$	$-0\cdot20$	$16\cdot14$

To find the selenographical longitude λ and latitude β of a point on the Moon's rim in position-angle p, it will not be worth while to take the semidiameter or the latitude B into account, so that λ and β are simply given, if

$p-\mathrm{P}$ is between 0° and 180°, by $\lambda=\Lambda-90^\circ$ and $\beta=90^\circ-(p-\mathrm{P})$,

and if

$p-\mathrm{P}$ is between 180° and 360°, by $\lambda=\Lambda+90^\circ$ and $\beta=p-\mathrm{P}-270^\circ$.

The position-angle of the axis of the Sun during the eclipse will be 14°·07, and the heliographical latitude of the centre of the disc +6°·40.

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1896.	°	°	°	°	°	°
Aug. 10	289·79	+0·17	−2·38	+1·34	2·73	60·6
11	302·04	0·15	−0·98	2·96	3·12	18·3
12	314·28	+0·13	+0·46	+4·41	4·43	354·1
13	326·51	0·10	1·87	5·58	5·88	341·5
14	338·74	0·08	3·14	6·37	7·10	333·9
15	350·96	0·05	4·23	6·77	7·98	328·1
16	3·18	+0·03	5·08	6·75	8·44	323·2
17	15·39	0·00	5·66	6·34	8·49	318·4
18	27·59	−0·03	+5·97	+5·60	8·18	313·3
19	39·78	0·06	6·01	4·56	7·54	307·3
20	51·97	0·09	5·79	3·30	6·66	299·8
21	64·16	0·12	5·33	1·91	5·66	289·7
22	76·34	0·15	4·65	+0·44	4·67	275·4
23	88·53	0·18	3·77	−1·02	3·91	254·8
24	100·71	−0·21	+2·75	2·42	3·66	228·6
25	112·89	0·24	1·57	3·70	4·02	203·0
26	125·08	0·27	+0·31	4·80	4·81	183·6
27	137·27	0·30	−1·01	5·68	5·77	169·9
28	149·46	0·33	2·33	6·33	6·74	159·9
29	161·66	0·36	3·57	6·70	7·59	152·1
30	173·86	−0·38	−4·70	−6·79	8·27	145·5
31	186·06	0·41	5·65	6·57	8·66	139·5
Sept. 1	198·27	0·43	6·34	6·04	8·75	133·8
2	210·49	0·46	6·72	5·21	8·49	127·9
3	222·72	0·48	6·72	4·07	7·85	121·3
4	234·95	0·50	6·31	2·68	6·85	113·1
5	247·18	−0·52	−5·48	−1·08	5·58	101·2
13	345·01	−0·70	+6·60	+6·40	9·19	314·3
14	357·21	0·73	7·12	5·71	9·12	308·9
15	9·41	0·76	7·26	4·73	8·66	303·2
16	21·60	0·78	7·04	3·53	7·87	296·7
17	33·79	0·81	6·53	2·18	6·88	288·5
18	45·97	−0·83	+5·78	+0·75	5·83	277·4
19	58·14	0·86	4·82	−0·70	4·87	261·7
20	70·31	0·89	3·73	2·09	4·27	240·7
21	82·48	0·91	2·53	3·37	4·21	216·9
22	94·65	−0·94	+1·27	−4·50	4·68	195·7

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1896.	°	°	°	°	°	°
Sept. 23	106·82	−0·96	−0·03	−5·42	5·42	179·7
24	118·99	0·99	1·34	6·11	6·25	167·7
25	131·16	1·01	2·62	6·53	7·04	158·2
26	143·33	1·03	3·85	6·68	7·70	150·2
27	155·51	1·05	4·98	6·53	8·21	142·8
28	167·69	−1·07	−5·96	−6·09	8·51	135·8
29	179·88	1·09	6·72	5·35	8·59	128·7
30	192·08	1·10	7·19	4·34	8·40	121·2
Oct. 1	204·28	1·12	7·32	3·08	7·94	112·9
2	216·48	1·14	7·04	−1·61	7·22	102·9
3	228·69	−1·15	−6·31	0·00	6·31	90·0
13	350·82	−1·30	+8·01	+3·64	8·80	294·6
14	3·00	1·32	7·72	2·31	8·06	286·7
15	15·18	1·33	7·07	+0·90	7·13	277·3
16	27·35	1·35	6·15	−0·52	6·17	265·2
17	39·52	1·37	5·03	1·90	5·38	249·3
18	51·68	1·38	3·80	3·17	4·95	230·1
19	63·83	−1·40	2·50	4·29	4·97	210·2
20	75·99	1·41	+1·18	−5·22	5·35	192·7
21	88·14	1·42	−0·12	5·92	5·93	178·8
22	100·29	1·43	1·39	6·37	6·52	167·7
23	112·44	1·44	2·60	6·54	7·04	158·4
24	124·59	1·45	3·74	6·43	7·44	149·9
25	136·75	−1·46	−4·79	−6·02	7·69	141·6
26	148·91	1·47	5·71	5·33	7·80	133·2
27	161·07	1·47	6·45	4·38	7·79	124·3
28	173·24	1·48	6·97	3·20	7·67	114·7
29	185·41	1·48	7·20	1·83	7·43	104·3
30	197·59	1·49	7·08	−0·32	7·09	92·6
31	209·78	−1·49	−6·54	+1·25	6·66	79·2
Nov. 10	331·77	−1·52	+7·91	+2·44	8·28	287·2
11	343·95	1·52	7·67	+1·01	7·74	277·5
12	356·12	1·52	7·04	−0·43	7·05	266·5
13	8·29	1·53	6·09	1·81	6·35	253·4
14	20·45	1·53	4·94	3·09	5·83	237·9
15	32·61	−1·53	+3·66	−4·22	5·58	220·9

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Greenwich Noon. 1896.	Selenographical Colong. of the Sun	Selenographical Lat. of the Sun	Geocentric Libration. Sel. Long. of the Earth	Geocentric Libration. Lat. of the Earth	Geocentric Libration. Combined Amount.	Geocentric Libration. Direction.
	°	°	°	°	°	°
Nov. 16	44·76	−1·53	+2·32	−5·15	5·65	204·2
17	56·90	1·53	+1·00	5·86	5·94	189·6
18	69·04	1·52	−0·27	6·32	6·33	177·6
19	81·18	1·52	1·46	6·51	6·67	167·4
20	93·31	−1·52	−2·55	−6·41	6·90	158·4
21	105·45	1·51	3·53	6·01	6·97	149·7
22	117·59	1·50	4·40	5·33	6·91	140·6
23	129·73	1·50	5·13	4·39	6·75	130·7
24	141·87	1·49	5·71	3·23	6·56	119·6
25	154·02	−1·48	−6·11	1·88	6·39	107·1
26	166·17	1·47	6·29	−0·41	6·30	93·7
27	178·33	1·45	6·20	+1·12	6·30	79·7
28	190·49	1·44	5·78	2·62	6·34	65·6
29	202·66	1·43	4·99	4·00	6·39	51·2
30	214·84	−1·42	−3·84	+5·17	6·44	36·5
Dec. 10	336·71	−1·31	+6·29	−1·67	6·51	255·1
11	348·88	1·30	5·42	3·01	6·20	240·9
12	1·04	1·29	4·31	4·18	6·00	225·8
13	13·20	1·28	3·06	5·15	5·99	210·6
14	25·35	1·26	1·75	5·90	6·15	196·5
15	37·49	1·25	+0·44	6·39	6·40	183·9
16	49·63	−1·23	−0·78	−6·61	6·66	173·3
17	61·76	1·21	1·89	6·54	6·79	163·9
18	73·89	1·19	2·85	6·17	6·79	155·3
19	86·02	1·17	3·64	5·51	6·60	146·7
20	98·15	1·15	4·26	4·57	6·24	137·1
21	110·28	1·13	4·71	3·40	5·81	125·9
22	122·41	−1·11	−4·98	−2·03	5·38	112·2
23	134·54	1·08	5·08	−0·53	5·11	96·0
24	146·68	1·06	4·99	+1·03	5·09	78·3
25	158·82	1·04	4·69	2·55	5·34	61·4
26	170·97	1·01	4·18	3·95	5·75	46·5
27	183·12	0·99	3·43	5·13	6·17	33·7
28	195·28	−0·96	−2·45	+6·03	6·51	22·0

In resuming the preparation of ephemerides for physical observations of the Moon, the last of which for 1891 were

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published in vol. 51, I have adopted 1°.523 as the inclination of the plane of the Moon's equator to the ecliptic instead of the former 1°·536, and I have also taken into account the chief term of the physical libration in longitude, which depends on the Sun's mean anomaly, and the coefficient of which Professor Franz has deduced from Schlüter's heliometrical measurements.

In vol. 51 pp. 164–176 may be found a list of published lunar sketches and photographs arranged according to the Sun's position. By means of the data in the first column, consisting of a constant and a factor to be multiplied into the Sun's selenographical latitude, the colongitude (= 90° – long.) is found which the Sun must reach in order to be at the same altitude above the horizon of the spot represented as at the assigned time of the sketch or photograph, so that, by reference to an ephemeris like the present one, it is easy to ascertain the corresponding times in any lunation to about a minute. I am desirous to make a general list of photographs and sketches which have either been published or are at least accessible in the library of the Royal Astronomical Society, and I want to arrange them so that observers may easily ascertain beforehand, whenever they prepare for observing, what recurring phenomena they may look for and also what regions require to be observed. But such a general list can only be prepared for those photographs and sketches which have been properly timed, and it is a very curious and regrettable fact that, while some sketchers, instead of making sure and stating the times when the chief shadows were drawn, which are the times required, merely mention the hours or half-hours between which their drawings were made, there are still published lunar photographs without the slightest indication of the times when they were taken.

Enlarged photographs, even imperfect ones, supply at once a great amount of trustworthy information about the shadow-throwing, which, if duly made use of, relieves observers even of attempts at observing in the glare of the light so injurious to the eyes, so that they may devote themselves entirely to observations of details in a confined field, and at the most suitable occasions. Take the case of the beautiful photographs published in *Knowledge*, and therefore in the possession of or accessible to many observers. How much interesting information about the whole region from Macrobius to Plinius northward to the rim is contained in that published in the number for 1894 April, and what an amount is stored up about the region from Aliacensis to Manilius, and from Tacitus to Ptolemæus in the photograph "Sunrise on Ptolemæus," published in the number for 1894 December! But at present the greater part of the valuable evidence of these photographs is locked up and not available, simply because the key to it is withheld. No inkling, even, is to be found, in the articles accompanying the photographs, of the times when they were taken, and hitherto I have tried in vain to obtain them.

If, instead of a plain statement of the time, to the hour and

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minute, and what time is meant, the age of the Moon or the time elapsed since New Moon is given to the hour, what purpose is that intended to serve? Is there any need to point out that the age of the Moon affords only a rough indication of the state of illumination, which one wants to know? That depends on the Sun's position referred to selenographical coordinates. According to the present ephemeris the Sun's centre will be in selenographical longitude + 90° and − 90°, or in colong. 0° and 180° at the following times, to which are added the corresponding ages of the Moon in hours and to the minute:—

1896.		⊙'s col. 0°.		Moon's age.				⊙'s col. 180°.		Moon's age.	
		h	m	h	m			h	m	h	m
Jan.	22	4	28	186	9	Feb.	6	0	14	541	55
Feb.	20	18	44	182	31	Mar.	6	14	10	537	57
Mar.	21	8	15	177	27	Apr.	5	3	14	532	26
Apr.	19	20	50	172	27	May	4	15	23	527	0
May	19	8	35	168	49	June	3	2	46	523	0
June	17	19	43	167	0	July	2	13	45	521	2
July	17	6	38	167	3	Aug.	1	0	42	521	7
Aug.	15	17	45	168	43		30	12	5	523	3
Sept.	14	5	29	171	46	Sept.	29	0	14	527	31
Oct.	13	18	5	175	47	Oct.	28	13	20	531	2
Nov.	12	7	39	180	12	Nov.	27	3	18	535	51
Dec.	11	21	57	184	6	Dec.	26	17	50	539	59

In *Knowledge* for 1895 June representations of Maurolycus and Albategnius are published from a photograph taken at Paris 1894 March 14, 6^h 33^m 57^s, Paris mean time, so that it is feasible to compute the data for the list, the Sun's zenith distance at the assigned time being found to have been 78°·09 at Maurolycus A and 87°·70 at Albategnius *A*.

For computing the data for the photographs of Copernicus, published in the *Harvard Annals*, vol. xxxii. p. 1, Plate V., and in vol. iii. of the *Publications of the Lick Observatory*, the positions of the Sun derived from my old ephemerides require merely the small corrections due to the physical libration and to the alteration of the inclinations, and give the zenith distances of the Sun at the central mountain of Copernicus 1889 September 4, 18^h 6^m, Greenwich mean time, 77°·25; 1891 July 28, 15^h 49^m 16^s, Pac. stand. time, 80°·39; and 1891 October 12, 7^h 50^m 54^s·5, Pac. stand. time, 75°·98. Hence we get for due insertion in the list and for finding the times of recurrences:

Sun's Colong.		Sun's Col.	Sun's Lat.	Spot.		
2°·45 + 0·202 × ⊙'s lat.		2°·36	− 0°·46	Albategnius	1894 Mar. 14	Paris
2·81 + 0·986	„	2·36	− 0·46	Maurolycus	1894 Mar. 14	Paris
32·86 − 0·169	„	32·63	+ 1·37	Copernicus	1889 Sept. 4	Harvard
34·14 − 0·170	„	33·98	+ 0·97	Copernicus	1891 Oct. 12	Lick
190·19 + 0·167	„	190·42	+ 1·37	Copernicus	1891 July 28	Lick

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I am willing to extend these computations to all published or to-be-published photographs, and to the most interesting spots upon them, and also to all duly timed published sketches. But for the purpose I require to be supplied with lists of the times when the photographs were taken, and when the chief shadows on the sketches were drawn, as also due references to the publications where they are to be found, so that, in case I get the opportunity, I may refer to them and consult them in the library of the Royal Astronomical Society.

I will conclude with giving for a few sketches the predictions of the times when the Sun will reach, at the spots represented, the same zenith distance as at the assigned times, and I select for the purpose the sketches published in the *Memoirs of the British Astronomical Association*, vol. iii. part v. or Plates IV. to VII., and therefore easily accessible. The data for these sketches are :

Sun's Colong.		Sun's Colong.	Sun's Lat.	Spot.			h	m	
°		°	°						
332·50 + 0·560 ×	⊙'s lat.	331·86	−1·14	Piccolomini	1892	Jan. 4	5	15	Elger
337·15 + 0·201	,,	337·17	+0·07	Theophilus	1893	Apr. 21	8	42·5	Gordon
338·28 + 0·201	,,	338·48	+1·00	,,	1894	May 20	8	15	Mee
7·75 + 0·390	,,	8·09	+0·88	Thebit & Wall	1893	May 23 (not 24)	9^h	10^m	[Corder
126·87 − 0·035	,,	126·82	−1·27	Messier	1894	Nov. 15	11	30	Mee
138·51 − 0·567	,,	139·01	−0·85	Piccolomini	1891	Dec. 19	11	0	Elger

Times of Recurrences.

	Piccolomini.			Theophilus.			Thebit.				Messier.				Piccolomini		
	332°·50			337° 15			7°·75				126°·87				138°·51		
	+0·560 lat.			+·201 lat.			+·390 lat.				−·035 lat.				−0·567 lat.		
		h	m		h	m		h	m			h	m			h	m
Feb.	18	12	29	18	21	39	21	9	59	Mar.	2	5	19	Mar.	3	4	3
Mar.	19	2	51	19	11	31	22	0	5		31	18	27	Apr.	1	16	13
Apr.	17	16	11	18	0	26	20	13	5		30	6	42	May	1	4	8
May	17	4	15	17	12	18	20	0	59		29	18	13		30	15	35
June	15	15	15	15	23	25	18	11	58		28	2	28	June	29	2	58
July	15	1	35	15	10	6	17	22	27		28	16	13	July	28	14	38
Aug.	13	11	51	13	20	55	16	9	0		26	3	33	Aug.	27	2	49
Sept.	11	22	40	12	8	16	14	20	9		23	15	37	Sept.	25	15	39
Oct.	...			...			14	8	20		24	4	35	Oct.	25	5	9
Nov.	9	23	46	10	10	1	12	21	45		22	18	27	Nov.	23	19	4
Dec.	9	14	15	10	0	21	12	12	15		22	8	54	Dec.	23	9	6

It will be worth while watching on February 18 for the time of the first sunlight on the central mountain of Piccolomini, but especially on February 21, watching and timing the phenomena of sunrise over Purbach, Thebit, and the long Wall. But the suggestion must be sufficient.

Col. Cooper's Observatory,
Markree, Collooney, Ireland.